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Serial No. 10/524,076
Amendment in Reply to Final Office Action mailed on November 7, 2006

REMARKS

This Amendment is being filed in response to the Final Office Action mailed November 7, 2006, which has been reviewed and carefully considered. Entry of the present amendment and allowance of the present application in view of the amendments made above and the remarks to follow are respectfully requested.

By means of the present amendment, the specification has been amended to correctly refer to the paragraph being replaced, where, in the Amendment filed on August 24, 2006, the wrong paragraph was inadvertently referred to, namely, "page 6, between lines 21-27" to replace a paragraph in the specification. The correct reference to the intended paragraph to be replaced is noted herein, namely, paragraph on page 7, between lines 23-26.

In the Final Office Action, claims 4-7, 10, 13-15, 17-19 and 21-23 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,848,043 (Takada). Further, claims 1, 3 and 8 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Takada in view of U.S. Patent No. 6,526,014 (Masaki). Claims 11-12 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over

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Takada in view of U.S. Patent Application Publication No. 2002/0021642 (Sasaki). Claims 16, 20 and 24 are rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Takada in view of U.S. Patent Application Publication No. 2002/0191511 (Toda). It is respectfully submitted that claims 1, 3-8, 10-25 are patentable over Takada, Masaki, Sasaki and Toda for at least the following reasons.

Takada is directed to an optical recording process for recording data on a recording medium. The process in Takada selects one of a series of pulse division schemes such as one shown in FIG 5B where 3 power level ranges are shown, namely, P_w , P_e and P_b . P_w is the writing power level, P_e is the erasing power level, and P_b is the bias power level, and $P_w > P_e > P_b$. As specifically recited on column 8, lines 33-35, the bias power level P_b is the power level:

being applied during a time interval t_T during which the recording power P_w is turned off.
(Emphasis added)

Therefore, there is no writing to the recording medium when the bias power is applied. That is, the bias power level P_b is not a writing power level, and the writing power P_w is turned off when

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the bias power P_b is being applied.

Since the bias power range P_b is only up to the erase power level P_e , as shown in FIG 5B, it necessarily follows that the erase power level P_e is less than a write power level P_w .

In stark contrast, the present invention as recited in independent claim 4, and similarly recited in independent claim 7, amongst other patentable features, requires (illustrative emphasis provided):

irradiating the information layer in between the sequences of one or more write pulses by a radiation beam having an erase power level, the erase power level being higher than a first write power level in first portion of a write pulse of the one or more write pulses.

Having an erase power level which is higher than a first write power level is nowhere taught or suggested in Takada. Rather, Takada teaches that the erase power level P_e is less than a write power level P_w . Thus, Takada teaches away from having an erase power level which is higher than a first write power, as recited in independent claims 4 and 7. Accordingly, it is respectfully submitted that independent claims 4 and 7 should be allowable.

Further, it is respectfully submitted that Takada does not

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teach or suggest the present invention as recited in independent claim 5, and similarly recited in independent claims 10, 13, 17 and 21 which, amongst other patentable features, requires (illustrative emphasis provided):

writing a mark by a sequence of one or more write pulses, said information layer having a phase reversibly changeable between a crystalline phase and an amorphous phase, wherein at least one of the write pulses in said sequence of one or more write pulses comprises a write power level which continuously increases from a first time to a second time, said first time being different from said second time.

A write power level which continuously increases from a first time to a second, different, time is nowhere taught or suggested in Takada. Rather, Takada merely shows in FIG 5B pulses having constant levels, such as constant levels for Pw, Pe, Pr. Accordingly, it is respectfully submitted that independent claims 5, 10, 13, 17 and 21 should be allowable.

In addition, claims 6, 11-12, 14-15, 18-20 and 22-25 should be allowable at least based on their dependence from independent claims 5, 10, 13, 17 and 21.

Independent claims 13, 17 and 21 also include a further patentable feature, namely:

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A sequence of pulses for writing the mark...
wherein the sequence of pulses includes... a
combination of a block-shaped pulse and a
staircase-shaped pulse.

It is respectfully submitted that a sequence of pulses for writing a mark, where the sequence of pulses includes a combination of a block-shaped pulse and a staircase-shaped pulse, is nowhere taught or suggested in Takada. Rather, Takada merely shows a constant level erase pulse P_e , followed by a constant level write pulse P_w where, as noted above and recited on column 8, lines 33-35, the Takada bias power level P_b is not a writing power level. Thus, any stair-shaped pulse in Takada is NOT for writing a mark; rather, one portion any such Takada stair-shaped pulse is for erasing, and another portion is for writing, where the Takada 'writing' portion itself is NOT a stair-shaped pulse, as required by independent claims 13, 17 and 21.

In addition, it is respectfully submitted that independent claims 1 and 8 are also patentable. As correctly noted on page 5 of the Final Office Action, Takada does not teach or suggest:

wherein at least one of the write pulses in
said sequence of two or more write pulses other
than a first write pulse in said sequence
consists of n portions, n being an integer number

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larger than 1, the i-th portion having an i-th write power level, i being an integer number in the range between 1 and n, the i-th portion preceding the (i+1)-th portion, and wherein the i-th write power level is lower than the (i+1)-th write power level, the first write pulse having a constant power level.

Masaki is cited in an attempt to remedy the deficiencies in Takada.

Masaki is directed to test writing on an optical storage medium for deciding an optimum light emitting power. FIG 4H, which is referred to on page 5 of the Final Office Action, shows light emission current/power including different levels: RP, AP, WP1 and WP2. RP is a reading power level used to read information from an optical storage medium, and WP1 and WP2 are different writing power levels.

AP is assisting power used for "increasing the rising speed of a writing power in case of the direct overwriting operation," (Column 10, lines 14-15). The assisting power AP is used when the "direct overwrite operation does not need the erasing operation." (Column 10, lines 11-12) Therefore, the AP or assist power level is not a writing power level, or a write pulse, because AP is used merely to "assist" or increase the speed of getting to the writing

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power level and it is below any writing speed power level, where as shown in FIG 4H $AP=I1$, $WP1=I2$, and $WP2=I3$.

FIG 4H of Masaki shows two writing power levels at $WP1$ and $WP2$. Since AP is not a writing pulse, the first write pulse is the $WP1$ (the pulse at $I2$). Write pulses other than the write first pulse $WP1$, are two write pulses which both have the same power level, namely, $WP2$.

In stark contrast, the present invention as recited in independent claim 1, and similarly recited in independent claim 8, amongst other patentable features, requires (illustrative emphasis provided):

wherein at least one of the write pulses in said sequence of two or more write pulses other than a first write pulse in said sequence consists of n portions, n being an integer number larger than 1, the i -th portion having an i -th write power level, i being an integer number in the range between 1 and n , the i -th portion preceding the $(i+1)$ -th portion, and wherein the i -th write power level is lower than the $(i+1)$ -th write power level, the first write pulse having a constant power level.

Having a write pulse, other than the first write pulse, with portions where the i -th write power level is lower than the $(i+1)$ -th write power level, as recited in independent claims 1 and 8, is

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nowhere taught or suggested in Takada, Masaki, and combination thereof. Sasaki and Toda are cited to allegedly show other features and do not remedy the deficiencies in Takada and Masaki.

Accordingly, it is respectfully submitted that independent claims 1 and 8 should be allowable. In addition, claim 3 should be allowable at least based on their dependence from independent claims 1 and 8.

In addition, Applicants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

It is believed that no additional fees or charges are currently due beyond the fee for the Request for Continued Examination (RCE) and the fee for one additional claim to be charged to the credit card as noted by the enclosed authorization. However, in the event that any additional fees or charges are


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required for entrance of the accompanying amendment, they may be charged to Applicants' representatives Deposit Account No. 50-3649. In addition, please credit any overpayments related to any fees paid in connection with the accompanying amendment to Deposit Account No. 50-3649.

In view of the above, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

By 
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Enclosure: RCE Transmittal
Authorization to charge credit card \$840 that includes
\$790 for RCE fee and \$50 fee for one additional
claim

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